

Please cancel claim 5.

Remarks:

Claim 1 has been amended to further define Applicants' invention. Briefly, claim 1 now recites a process for catalytic cracking in which the catalyst composition further comprises a primary catalytically active cracking component.

Claims 6 and 7 have been amended to change their dependency to be upon claim 1.

Claim 5 has been cancelled in light of the amendment to claim 1.

Applicants respectfully request reconsideration of the rejections stated in the Office Action dated September 17, 2002, in light of the amendments mentioned above and the remarks below.

It is stated in the Office Action that claims 1-5 and 7 are rejected under 35 U.S.C. §102(b) as being anticipated by Kearby (U.S. Patent No. 371,299). It is stated therein that Kearby discloses Applicants' composition as recited in the aforementioned claims because Kearby's catalysts contain an aluminophosphate meeting the surface area, average pore diameter and pore size distribution of the aluminophosphate composition recited in Applicants' claims. It is also stated that Kearby discloses the use of cobalt in connection with the aluminophosphate composition, thereby anticipating Applicants' claims. Applicants, however, respectfully request reconsideration of this rejection in view of Applicants' inclusion of a primary catalytically active cracking component in addition to the aluminophosphate composition.

Briefly, Kearby does not disclose a cracking catalyst which comprises a primary catalytically active cracking component in addition to the aluminophosphate composition. Indeed, Kearby teaches that the aluminophosphate composition itself is a cracking catalyst. See column 1, lines 18-20.

Moreover, while Kearby also states that the aluminophosphates can be used either alone or in combination with silica or alumina, it is respectfully submitted that those additional materials are not considered by Kearby to be the primary catalytically active cracking component, and Kearby does not teach one

of ordinary skill in the art to include those compositions in the form of a primary cracking catalyst.

Other additional materials suggested by Kearby include the metals mentioned as hydrogenation agents, e.g., cobalt but again it is submitted that those too are not considered by Kearby to be primarily catalytically active cracking components. Indeed, the hydrogenation metals are suggested for use in making other types of catalysts, such as chemical catalyst used to dehydrate alcohols to produce olefins or ethers. See column 1, lines 26-29.

It is also submitted that Kearby goes no further in disclosing the subject matter of claim 7. Claim 7 recites that the primary catalytically active cracking component comprises a large pore molecular sieve having a pore size greater than about 7 Angstroms, and Kearby simply does not disclose a material *in addition to* the aluminium phosphate, wherein the additional material is a molecular sieve and that that sieve has a pore size greater than 7 Angstroms.

It is also stated in the Office Action that Kearby succeeds in the disclosing a cracking component. However, it is submitted that the only cracking component disclosed by Kearby is the aluminophosphate material itself. Applicants disagree with the assessment stated in the Office Action that the presence of alumina, nickel, cobalt would constitute the primary catalytically active material combined with the aluminophosphate. As mentioned above, it is submitted that Kearby considers the aluminophosphate gel as the primary catalytically active cracking component.

Withdrawal of the 35 U.S.C. §102(b) rejection based on Kearby is requested.

It is stated in the Office Action dated September 17, 2002 that claims 6 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kearby. It is stated that while Kearby is silent about the ratio of aluminophosphate to the primary cracking material, it would have been obvious for one of ordinary skill in the art to employ any proportion of components disclosed by Kearby. Applicants, however, respectfully request reconsideration.

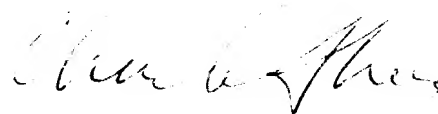
It is respectfully submitted that Kearby's silence is not by accident. As discussed above, Kearby considers the aluminophosphate material as the primary cracking material and thereby would not suggest or need an additional material to

perform that purpose. Therefore, it is not seen how Kearby is suggestive of any ratio of primary cracking material to aluminophosphate because it is submitted that Kearby would have no need for a primary catalytically active material in addition to aluminophosphate. It is also not seen where Kearby discusses the subject matter of claim 9, which recites that the process of claim 1 is processing a hydrocarbon feedstock containing sulfur and that the process of using the aluminophosphate would result in a lower sulfur content. Withdrawal of 35 U.S.C. §103(a) rejection based on Kearby is therefore requested.

In view of the amendments and the Remarks above, Applicants respectfully submit that the claims are now in condition for allowance and respectfully request notice to that effect in the form of a Notice of Allowability.

Finally, please find attached an Associate Power of Attorney (37CFR 1.34(b)) and Change of Correspondence Address (37 CFR 1.33(d)), which indicates the change of Attorney prosecuting in the above-identified case.

Respectfully submitted,



Charles A. Cross
Attorney for Applicants
Reg. No. 32,406

Tel: (410) 531-4518
W. R. Grace & Co.-Conn.
7500 Grace Drive
Columbia, Maryland 21044

Charge: DAV/FCC

APPENDIX A

1. A process for catalytic cracking of a hydrocarbon feedstock comprising contacting the feedstock with a catalyst composition comprising an amorphous mesoporous aluminophosphate material which comprises a solid aluminophosphate composition modified with at least one element selected from zirconium, cerium, lanthanum, manganese, cobalt, zinc and vanadium, wherein the mesoporous aluminophosphate material has a specific surface of at least $100\text{m}^2/\text{g}$, an average pore diameter less than or equal to 100\AA , a pore size distribution such that at least 50% of the pores have a pore diameter less than 100\AA , wherein the catalyst composition further comprises a primary catalytically active cracking component.

5. Cancelled.

6. The process of claim 5 claim 1 wherein the weight ratio of the aluminophosphate material to the primary cracking catalyst component is about 0.01 to 0.5.

7. The process of ~~claim 5~~ claim 1 wherein the primary catalytically active cracking component comprises a large pore molecular sieve having a pore size greater than about 7 Angstrom.

APPENDIX B

1. A process for catalytic cracking of a hydrocarbon feedstock comprising contacting the feedstock with a catalyst composition comprising an amorphous mesoporous aluminophosphate material which comprises a solid aluminophosphate composition modified with at least one element selected from zirconium, cerium, lanthanum, manganese, cobalt, zinc and vanadium, wherein the mesoporous aluminophosphate material has a specific surface of at least $100\text{m}^2/\text{g}$, an average pore diameter less than or equal to 100\AA , a pore size distribution such that at least 50% of the pores have a pore diameter less than 100\AA , wherein the catalyst composition further comprises a primary catalytically active cracking component.

6. The process of claim 1 wherein the weight ratio of the aluminophosphate material to the primary cracking catalyst component is about 0.01 to 0.5.

7. The process of claim 1 wherein the primary catalytically active cracking component comprises a large pore molecular sieve having a pore size greater than about 7 Angstrom.